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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,505	01/27/2004	Kazumasa Mihara	040026	9260
23850	7590	07/13/2005	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			CHURCH, CRAIG E	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/764,505	Applicant(s) MIHARA ET AL.	
	Examiner Craig E. Church	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5, 8, 10, 11, 13, 17, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Setala (3466439). Setala teaches radiation treatment apparatus comprising radiation generating unit 16, annular guide 12/13 that moves the generating unit along an orbit about an isocenter, floor mounted support member 18 that rotates the guide about a vertical axis extending through the isocenter and parallel with the orbit, imaging means (lines 50-54 of column 3) and movable patient support 1'1/2'.

Claims 25-28, 31, 32 and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Kunieda et al (6307914). Kunieda teaches a pursuing (tracking) radiation therapy system comprising a therapy x-ray beam generating LINAC 15, patient support couch 20 (called a base), first and second x-ray imaging systems 21a-f and 22a-f, data processing means 24-32 for receiving data from the imaging systems and determining the dynamic location and size of the tumor and various controllers for adjusting the therapy apparatus in response to the detected tumor position. Lines 15-28 of column 9 explain such control includes gating source 15 on and off. Line 59 of column 15 to line 11 of column 16 teach that such control includes moving the patient couch (base).

Lines 14-36 of column 16 mention that such control includes adjusting a multileaf collimator 15a. Lines 66 of column 8 et seq explain how the tumor is tracked in three dimensions as the intersection of two straight lines which tracking signal influences enablement of the treatment beam, coordinated movement of the patient support and coordinated movement of the multileaf collimator etc.

Claims 1, 7, 9 and 22 are rejected under 35 U.S.C. 102() as being anticipated by LeVeen (4230129). LeVeen teaches radiation treatment apparatus comprising microwave (200 MHz column 1) generating unit 36/38, circular guide 42/44 that moves the generating unit along an orbit about an isocenter, floor mounted support member 50/52/62/64 that rotates the guide about a horizontal axis extending through the isocenter and parallel with the orbit, imaging means (lines 3-8 of column 6) and movable patient support 34.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Setala. Setala fails to teach that guide 12 includes two rails, but it would have been obvious to provide it with two instead of one for greater strength and durability (claim 3). Setala fails to teach supports on both sides of the guide 12 instead of just one at the floor, but it would have been obvious to provide it with a second support such as at the ceiling for greater strength and durability (claims 6, 12, 14). Setala fails to teach a belt for driving the guide in rotation, but the use of drive belts

such as in automobiles are so notorious, it would have been obvious to employ same in Setala's apparatus.

Claims 16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Setala as above in view of Kunieda as above. Setala leaves out many details of his treatment apparatus such as a collimator and imaging means, and it would have been obvious to equip the Setala system with a multileaf collimator with its control means and multisource tumor locating components such as taught by Kunieda in order to make Setala's apparatus function as described.

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunieda as above in view of LeVeen (4230129). Kunieda does not mention the use of microwaves as therapeutic energy but such is suggested by LeVeen, and it would have been obvious to equip Kunieda with a microwave source for the reasons taught by LeVeen.

Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunieda as above in view of Fitchard (6385286). Kunieda does not teach that his imaging means comprise a CT scanner. Fitchard teaches radiation therapy apparatus comprising rotating gantry 24, x-ray therapy source 28 with a multileaf collimator 38, verification imaging means 36, patient couch 12 movable in x, y and z directions, x-ray CT imager including source 26, image detector array 32 and computer means (figure 12) for data processing and control (such as collimator 38). Lines 45-59 of column 5 explain that source 28 is controlled as to energy, fluence and exposure time. It would have been obvious to employ CT imaging means in the Kunieda system to allow precise tumor location in any given plane.

Any inquiry concerning this communication should be directed to Examiner Church at telephone number (571) 272-2488.

A handwritten signature in black ink that reads "Craig E Church". The signature is written in a cursive, slightly slanted style.

**Craig E. Church
Senior Examiner
Art Unit 2882**